Abstract: P845

Atopic dermatitis is associated with increased aortic stiffness;

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Introduction: Atopic dermatitis (AD) is a common chronic inflammatory skin disease. The current study was designed to assess ascending aortic size and function by echocardiography in AD patients.

Methods: The study comprised 19 patients with typical features of AD (30.5 ± 10.8 years, 8 men). Their results were compared to 19 age- and gender-matched healthy controls (29.3 ± 2.9 years, 8 men). All subjects underwent a complete 2-dimensional transthoracic echocardiographic study. Systolic and diastolic ascending aortic diameters were measured in M-mode at a level 3 cm above the aortic valve from a parasternal long-axis view. Aortic elastic properties were calculated using aortic data and forearm blood pressure values.

Results: Aortic diameters of AD patients were enlarged compared to controls. Echocardiographic and blood pressure data and calculated aortic elastic properties are summarized in Table (LV = left ventricular, *p <0.05 vs. controls). Reduced aortic strain and increased aortic stiffness index could be demonstrated in AD patients as compared to controls.

Conclusions: Increased ascending aortic stiffness and enlarged aortic dimensions suggesting vascular remodeling could be demonstrated in AD patients as compared to matched controls.

	Patients with atopic dermatitis	Controls
LV end-diastolic diameter (mm)	48.1 ± 4.7	47.9 ± 3.4
LV end-systolic diameter (mm)	29.7 ± 5.4	30.0 ± 3.3
Interventricular septum (mm)	9.4 ± 1.8	9.3 ± 0.9
LV posterior wall (mm)	9.2 ± 1.1	9.1 ± 1.0
LV ejection fraction (%)	66.2 ± 8.0	66.5 ± 5.0
Aortic systolic diameter (mm)	28.3 ± 4.7	26.2 ± 3.0
Aortic diastolic diameter (mm)	25.8 ± 4.9*	22.9 ± 2.4
Pulsatile change in aortic diameter (mm)	2.5 ± 1.2	3.2 ± 1.3
Systolic blood pressure (mm Hg)	127.5 ± 13.3	125.7 ± 13.0
Diastolic blood pressure (mm Hg)	78.5 ± 9.7	74.4 ± 7.4

	Patients with atopic dermatitis	Controls
Pulse pressure (mm Hg)	48.9 ± 12.3	51.3 ± 12.3
Aortic strain	0.103 ± 0.055*	0.142 ± 0.051
Aortic distensibility (cm²/dynes 10(-6))	3.41 ± 2.07	4.29 ± 1.65
Aortic stiffness index	8.28 ± 8.95*	4.11 ± 1.47

Abstract: P246

Can 3D-Speckle Tracking analysis be useful for identifying patients with acute myocarditis? A comparison with cMRI findings

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Acute myocarditis can be a cause of sudden death in young adults, therefore accurate screening for subclinical disease is needed. Conventional 2D echocardiographic indices are neither sensitive, nor specific for detection of sublime cases. The aim of this study was to analyze 3D myocardial deformation in patients with acute focal myocarditis in the presence of epicardial damage but without wall motion abnormalities.

Methods: 11 consecutive patients were examined (age: 36.2±23.7, range: 70-17yrs, 4 females) with acute myocarditis confirmed by cMRI findings (signs of enhancement on late gadolinium imaging) and supported by clinical data. Routine 2D- and M-mode echocardiographic study was followed by 3D-Speckle Tracking analysis (Toshiba Artida 4D). Peak systolic strain (S), strain-rate (SR) were calculated in longitudinal, circumferential and radial directions. Regional rotation (R) and torsion (T) curves were retrieved in 16 LV segments, untwist rate (UTR) was calculated at 25% of diastole. Values from segments with delayed enhancement (DE) on cMRI were compared with mean of the corresponding basal, mid- and apical planes to avoid influence of base-to-apical differences (max-mean/mean, as relative change).

Results: patients had preserved global systolic function (EDV:105.9±14.8, ESV:45.7±15ml, EF:56.2±15.5%). LS was mildly reduced in segments with DE in basal (by -11.9%) and mid-LV planes (by -14.8% vs mean, $p<0.05$, respectively) with increased apical values (+13%, $p<0.05$). L-SR showed similar pattern (-33, -17.1% vs +66% apically, $p<0.04$). Affected segments had pronounced reduction of CS (-184% in basal, -102% in mid- and -7% in apical planes, $p<0.01$) and C-SR indices (-49, -3 and -12%). RS was decreased just in trend (-20, -17.5, -9.3%, p=ns). R-angle was increased in all, but apical planes (+12, +23.9 vs -4%, $p<0.02$). Regional T was decreased locally (by -25.7%, pp<0.01). UTR was delayed by -41.1, -33.1% in basal and mid-, with acceleration of +5.5% apically ($p<0.02$).

Conclusions: Patients with acute myocarditis and normal LVEFs showed signs of local LV systolic dysfunction at regions with inflammatory changes on cMRI examination. The apex had a paradoxically increased strain pattern in the longitudinal direction. The most pronounced derangements were detected circumferentially. The involved segments had increased rotation in systole, but with lengthened untwist in early diastole, probably implying changes in 3D-behaviour of the inflamed myocardium. 3D deformation parameters have the potential to improve the detection of patients with myocarditis and preserved LVEFs.